ALBERTA-PACIFIC PULP MILL

ROADWAY INFRASTRUCTURE BRIEF

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AND UTILITIES

ROADWAY PLANNING BRANCH

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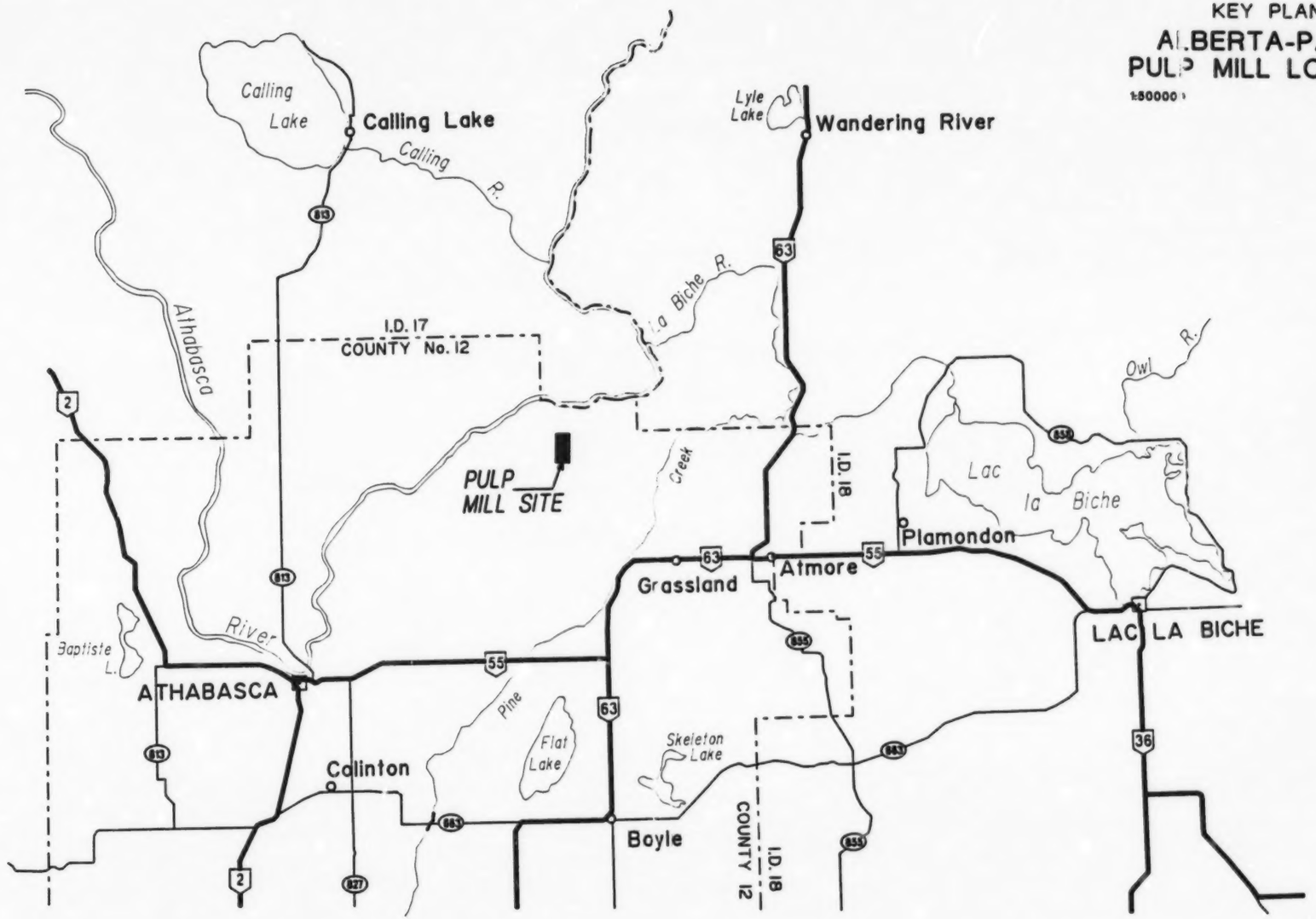
KEY PLAN

ALBERTA-PACIFIC PULP MILL LOCATION

1:50000 SEPTEMBER/1989



SUMMARY

- The Alberta - Pacific Pulp Mill is proposed to be located just south of the Athabasca River between the communities of Athabasca and Lac La Biche. It is proposed to be the largest single line kraft pulp mill in the world and will obtain wood fibre from a 100,000 sq km area mainly north and east of the mill site.

- To facilitate the construction and operation of the mill, the Government of Alberta is committed to providing a rail spur from the area of the mill site to Boyle, an access road providing a southerly connection from the mill site to Highway 55 or Highway 63, a resource road, which includes a crossing of the Athabasca River, to connect the mill site to Secondary Highway 813 north of Calling Lake, and a resource road connecting the mill site with Highway 63 to the east.

- Alberta Transportation and Utilities is responsible for determining the location, carrying out the design, and constructing the roadway components of the required transportation infrastructure.

- This brief outlines the roadway requirements, provides a tentative schedule for construction, describes possible roadway locations, points out potential environmental and social concerns which could arise from the alignments, and describes the public participation and referral process used to deal with those concerns.

- All roadways to be provided for this project by the government will be designated as public roads and will be available for the unrestricted use of public traffic. The roadways will be local roads and will fall under the jurisdiction of the individual road authorities for operation and maintenance. It is anticipated that Alberta - Pacific will enter into operating agreements for the resource roads and that they will contribute to or assume the responsibility for maintenance vested with the local road authority.

- It is proposed that the main mill access road will be constructed with an 11.8 m wide paved surface and that the resource roads will be constructed with an 11 m wide gravelled surface.

- Tentative construction schedules provided in this brief have been developed from construction and operational requirements provided by Alberta - Pacific based on their most current mill construction schedule. The time available to construct the required roadway infrastructure is extremely limited. Alberta Transportation and Utilities has made a commitment that no construction on roadway infrastructure will take place until environmental approvals for the proposed mill are in place. The planning and preliminary engineering work required for the implementation of the project has therefore been limited to critical areas of the alignments.

- The main mill access road connecting the proposed mill to Highway 63 or Highway 55 is required as soon as possible after commencement of mill construction to facilitate construction traffic to the mill and to minimize the disruption to area residents which would result from this traffic being accommodated

on existing local roads. A detailed evaluation and comparison of three alternative access road configurations has therefore been carried out. The access road locations are shown on the study map on page v and on the mosaic drawings contained in the plans section of the brief. Details of the evaluation and comparison of alternatives are provided in Section 3. A decision on the final location of the access road to serve the proposed mill has not been made. To complement Alberta - Pacific's current construction schedule it is proposed to construct the access road to a gravel stage (at least the section between the mill and the Grassland connector) by early to mid-summer 1990. The remainder of the roadway grading and paving of the entire route would have to be completed by the end of the 1991 construction season.

- The resource road connecting the mill with timber resources to the north of Calling Lake is required to accommodate log haul prior to spring break up in 1992. Bridge structures crossing the Athabasca River and Calling River will form part of this route. A tentative location for this resource road is shown on the study map on page v and on mosaic drawings in the plans section. A description of the route and the status of the alignment evaluation carried out to date is provided in Section 4. Because of the lead time required for the construction of the Athabasca River crossing an alignment decision for that segment of the alignment has been made, surveys and geotechnical testing have been carried out, and the process of detailed structural design is underway. To facilitate bridge construction it is proposed to construct the Athabasca River Valley portion of this route in 1990. The remainder of the route would be constructed in 1991.

- The resource road connecting the mill site to Highway 63 is required to accommodate log and chip haul during the winter of 1990-91. A tentative location of this resource road is shown on the study map and mosaic plans, and a description of the route is provided in Section 5. Detailed location work, survey, design and geotechnical investigations for the Pine Creek crossing are required early in 1990 to facilitate resource road construction during the summer construction season of 1990.

- A program to obtain public input into the various aspects of the roadway infrastructure required to serve the proposed pulp mill was undertaken by Alberta Transportation and Utilities. Meetings and discussions were held with local road authorities and the general public. Information and feedback received has been used in developing and evaluating alignment alternatives. This information will also be taken into account when making final alignment decisions. The public participation component of this project is outlined in Section 6.

- The environmental and social aspects of road construction are considered to be critical factors in all projects carried out by Alberta Transportation and Utilities. To address this, a referral process has been established with other government departments and local authorities to identify and minimize the impact of environmental and social issues created by roadway construction. The process itself, along with the status of referrals to date is described in Section 7. Some of the issues raised during the referrals carried out are dealt with during the discussion of individual roadways in Sections 3, 4 and 5 of this brief.

STUDY MAP

ALBERTA - PACIFIC PULP MILL

INFRASTRUCTURE REQUIREMENTS

DWG. NO.: P-2390, DATE: 88-11, SCALE: 1:250 000

TP. 74 TP. 73 TP. 72 TP. 71 TP. 70 TP. 69 TP. 68 TP. 67

ATHABASCA RIVER

POSSIBLE RESOURCE ROAD

ALT. 1
ALT. 2
ALT. 3

GRASSLAND

BOYLE

PINE SANDS NATURAL AREA

MILL SITE

ALTERNATE MILL ACCESS ROUTES

AMBER VALLEY

POSSIBLE RESOURCE ROAD

CALLING LAKE

ATHABASCA

ATHABASCA RIVER

RGE. 18 W. 4
RGE. 20
RGE. 21
RGE. 22
RGE. 23

63 55 663 813 827 2 812

1. INTRODUCTION AND BACKGROUND

Alberta - Pacific Forest Industries Inc. proposes to develop a bleached kraft pulp mill in the vicinity of the Athabasca River in Township 68, Range 19 West of the 4th Meridian. This location is approximately 40 km northeast of the Town of Athabasca, 40 km north of Boyle and 60 km west of Lac La Biche. The mill will be the largest single-line kraft pulp mill in the world and will produce 1500 ADMT (air dried metric tonnes) of pulp per day. The wood supply will be obtained largely from a 100,000 square km area mainly north and east of the plant site. The supply will consist of approximately 75% hardwood (aspen) and 25% softwood (spruce and pine).

Discussions and negotiations relative to the proposal to build a pulp mill took place between the Government of Alberta and Alberta - Pacific during the fall of 1988. Based on these negotiations, it was agreed that the government would fund specified components of the transportation infrastructure required to serve the pulp mill. The infrastructure components the government agreed to fund were a rail spur from the existing CN line near Boyle to the mill, a main access road connecting the mill to Highway 63 or Highway 55, and to accommodate log haul, a resource road connecting the mill to Secondary Highway 813 near Calling Lake and a resource road connecting the mill to Highway 63. The subject of this brief is the roadway component of the transportation infrastructure to be provided by the government. It will provide some background relative to the need for the roadways, a summary of public involvement in the planning process, a general description of the location and environmental implications of the routes, and where applicable a more detailed description and comparison of alternatives considered.

The current development schedule from Alberta - Pacific calls for site preparation to start in late 1989. This would allow mill construction to proceed under winter conditions during the winter of 1989-90. Log haul would commence early in 1991 to allow an inventory of chips and logs to be built up prior to a scheduled start up of the mill in late 1991 or early 1992.

Alberta Transportation and Utilities will be responsible for the funding and construction of roadway infrastructure to be provided by the government for this project. However, the roadways will not be designated as either primary or secondary highways and will therefore fall under the jurisdiction of the local road authorities (County of Athabasca and Improvement District #17) for maintenance. It is anticipated that an agreement requiring Alberta - Pacific to maintain or share in the maintenance costs of the various roadways will be reached between Alberta - Pacific and the local authorities.

2. CONSTRUCTION SCHEDULE

Schedules for construction of the roadway infrastructure to be provided for the Alberta - Pacific pulp mill are tentative, and are dependent upon the timing of the environmental approvals for the project. Alberta Transportation and Utilities has made a commitment that no construction work on the roadway infrastructure will take place until environmental approvals are in place.

Tentative construction schedules provided in this brief have been developed from construction and operational requirements provided by Alberta - Pacific. This information is based on Alberta - Pacific's current mill construction schedule and results in an extremely tight schedule for the provision of roadway infrastructure. Work has therefore proceeded on planning and detailed engineering of certain critical components of the roadway infrastructure.

2.1 Main Mill Access

The main access to the mill is required as soon as possible after mill construction proceeds to accommodate heavy construction vehicles and large numbers of construction workers. To date a detailed evaluation and comparison of three alternative access locations has been carried out, but a decision on the final access location has not been made. Given Alberta - Pacific's current plans for a construction start during the winter of 1989-90, Alberta Transportation and Utilities plans to start construction of the main mill access early in the 1990 construction season. To achieve that, an alignment decision will have to be made so that preliminary surveys, design, and right-of-way acquisition can

proceed early in 1990. Assuming no major delays are encountered during the right-of-way acquisition process a minimum of four months is required from the time of an alignment decision to the start of construction. The portion of the main access to the south of the Grassland connector will not likely proceed until the 1991 construction season. It is not anticipated that the paving of any portion of the access road will take place until 1991.

2.2 Resource Road to North of Calling Lake

Alberta - Pacific has indicated that the resource road to north of Calling Lake is required to accommodate log haul during the winter of 1991-92. Preliminary projections for the alignment of this route have been carried out and a tentative alignment has been established. More detailed location work and refinement of the tentative alignment will take place early in 1990. This will allow preliminary surveys, design, and right-of-way clearing to proceed prior to proposed construction during the 1991 construction season.

The Athabasca River Bridge is the most critical component of the roadway infrastructure with respect to lead time required for planning and design and the overall length of the construction period. In order to have the bridge in place for log haul during the winter of 1991-92 construction will have to commence in late summer 1990. Approximately 18 months lead time is required to carry out the planning and design of a structure of this magnitude. An alignment decision for the bridge site was therefore made early in 1989. Geotechnical testing and preliminary surveys were carried out and detailed design will proceed during the fall of 1989.

An environmental inventory of the biophysical resources contained in the valley portion of the alignment through the natural area will be carried out during the spring of 1990. Road construction within the Athabasca River Valley will have to proceed in early summer 1990 to allow bridge construction to proceed.

2.3 Resource Road to Highway 63

Log haul on the resource road to connect the mill site with Highway 63 is scheduled to commence early in 1991. The construction of this resource road will have to commence by early to mid-summer of 1990 to facilitate that schedule. It is anticipated that the location of this alignment will be refined and finalized early in 1990 so that preliminary surveys and design can proceed.

The most critical portion of the route from a construction timing viewpoint is the Pine Creek crossing. To ensure this structure is available for log haul in early 1991 the bridge survey will have to be completed and the design gradeline finalized by mid-February 1990.

3. MAIN MILL ACCESS

The proposed pulp mill is located just south of the Athabasca River between the Town of Athabasca and Lac La Biche at a point almost directly north of the Village of Boyle.

The proposed pulp mill will employ 440 people at the mill and approximately 660 people in the woodlands. These people will reside in the various towns, villages and rural areas in the vicinity and those working at the plant will commute daily. Therefore there is a requirement to provide a good paved road system to connect existing paved highways to the plant. A major requirement of that access road system is that it be as fair and equitable as possible to all communities within the region, while also being environmentally acceptable, economical, and efficient to construct, operate and maintain.

It is projected that approximately 1300 vehicles per day will utilize the access road to the mill once it is in operation. This traffic will consist primarily of light vehicles used by mill site workers. However there will be some service vehicles, transport trucks supplying the mill with raw materials, and a limited number of log and chip trucks accessing the mill from areas along Highway 55. It is anticipated that the majority of bulk commodities required by the mill (including chemicals) will be shipped by rail. Finished products would also be shipped by rail. Because of the high traffic volumes accessing the mill a high standard paved roadway should be provided to accommodate access requirements. It is therefore recommended that a paved roadway with an 11.8 m finished surface (RAU-211.8) be constructed as the main access road.

It is anticipated that construction traffic accessing the mill on the proposed mill access road will build to a maximum of 1700 vpd during the second year of construction. This assumes that approximately 1400 workers will live in a construction camp on site and that an additional 400 workers will commute to the site daily. Until the main access road is completed construction access will have to be accommodated by the existing local road system. If the main access can be completed to a gravel stage by early to mid-summer 1990, the maximum construction volume accommodated by the existing system is estimated as 400 vpd.

Three alternative routes or corridors were analyzed and these are shown as Alternative 1 (Amber Valley & 1/4 line), Alternative 2 (1/4 line) and Alternative 3 (Spruce Valley) on the study map on page v and on the mosaics. All three alternatives include an east-west connecting road to tie Highway 63 at the Grassland corner to the main north-south route. Alternatives 1 and 3 also include a north-south connection from Highway 63 to the Grassland Connector.

Alternative 1 was considered because it follows the general location of the existing Amber Valley road which has historically served the area. The north half of the route was moved to the quarter line east of the existing road to minimize conflict with farmsteads that front on the existing road and to parallel the rail corridor originally proposed to serve the mill.

Alternative 2 follows the same quarter line adjacent to the proposed railway but runs almost directly south on that quarter line to Highway 55. Some deviation is necessary in an area of extensive muskeg approximately 8 km north of Highway 55.

Alternative 3 follows the existing Spruce Valley road to a point 4 km north of Spruce Valley where it turns due west to the proposed mill site.

All alternatives end at a common point at the proposed mill. All also assume a continuation or connection north to the main haul road system.

Because there will be some log haul on the main plant access, all alternatives assume that special intersection designs to accommodate turning loaded log trucks will be required at the intersections with Highways 55 and 63, the plant access and at the intersection with the connector to Grassland Corner.

Table 1 on page 12 provides a detailed comparison of the technical aspects of the three alternatives.

Based on the analysis that was done, the following conclusions can be made:

3.1 Travel Distance

Travel distances to the plant from the Athabasca area via Alternatives 1 and 3 are shorter by 2.4 km and 2.0 km respectively compared to Alternative 2. The distance from the Lac La Biche and Boyle areas to the plant is essentially the same for all alternatives.

Alternative 3, assuming that the Amber Valley road would not be upgraded would be longer than Alternative 1 by 9 km and Alternative 2 by 6.6 km for Athabasca traffic. This additional distance is so great that it is unlikely traffic from Athabasca would follow this route. Instead they would cut-off on the Amber Valley road to save the extra distance.

Therefore it is almost certain that major upgrading of the Amber Valley road would be required to handle this traffic and this upgrading is included in Alternative 3.

3.2 Environmental and Social Impact

Regarding specific environmental impacts to water courses and undeveloped lands, it is evident that Alternatives 1 & 3 would have the least adverse impact because they pass through very little undeveloped land and follow substantial sections of existing road. Alternative 2 would have the greatest impact because it is essentially a new route through an area where there is no existing road. Also it passes through a muskeg area located approximately 8 km north of Highway 55. Some of this area has been placed under reservation by Forestry, Lands and Wildlife for habitat protection purposes. The alignment would pass immediately adjacent to approximately 2 km of the reserve area but if necessary could avoid any physical encroachment. The major potential adverse impact of the road would be from the improved access to this area.

Road construction in this area will be done in a manner that will not disrupt or change water levels or drainage patterns beyond what has been licensed by Alberta Environment for the Donatville Project. Alternatives 1 and 3 each require three crossings of Pine Creek. However, one of the crossings on Alternative 2 will be a new one while all three crossings on the other alternatives are at existing bridge sites.

Alberta Culture has reviewed the alternatives and advise that they do not have concerns regarding historical or archaeological factors on any of the routes.

All three alternatives traverse lands that are generally rated as Class 3 and Class 4 in the Canada Land Inventory, Soil Capability for Agriculture. Those ratings mean that the soils have moderately severe (Class 3) to severe (Class 4) limitations that restrict the range of crops or require special conservation practices or both. Some areas of organic soils are also apparent, particularly on Alternative 2. The length of alignment passing through the various soil types for the three alternative alignments are similar and does not result in a significant advantage to any one alternative.

From the standpoint of lands required for road right-of-way, Alternative 3 requires the least at 207 acres and Alternative 2 the most at 293 acres. This is because Alternative 2 being generally located on the 1/4 line does not follow existing road rights-of-way. Land severance can be considered essentially equal for all alternatives.

All three alternatives would pass adjacent to developed farmsteads with Alternative 3 passing by 3 (includes existing Amber Valley Road) compared to 8 for Alternative 1 and 2 for Alternative 2. It is likely that some frontage damage would result to 4 of the farmsteads on Alternative 3 compared to none for the other alternatives. The fact that the road would pass by farmsteads has both negative and positive implications and these depend largely on the specific feelings of the residents of those farmsteads. On the positive side, a paved road can be considered as very desirable for good access while on the negative side the traffic noise and increased exposure are sometimes considered problems.

3.3 Costs

The estimated construction costs to a paved standard are approximately $16.8 million for Alternative 1, $14.3 million for Alternative 2 and $17.9 million for Alternative 3. The latter includes the additional cost of upgrading the Amber Valley road to a 9 m paved surface. Therefore from a construction cost standpoint, Alternative 2 has a major advantage over the others because it would cost $2.5 million less than Alternative 1 and $3.6 million less than Alternative 3 to build.

The estimation of annual maintenance costs for each alternative is more complex because while they have significantly different lengths of pavement, the differences are at least partially compensated for by the length of the gravel local road required in the total system. Based on an approximation of the total future road system, and including the cost of maintaining the existing gravel system, it is estimated that Alternative 3 would have the highest and Alternative 2 the lowest annual maintenance costs. However, the differences are not great enough to be a major factor in the alignment decision.

User costs of Alternative 2 should be slightly higher than for Alternatives 1 and 3 because of the approximate 2 km longer travel distance for the Athabasca area traffic. A rough calculation indicates Alternative 2 user costs would be approximately $100,000 more per year than the other alternatives. For the purpose of this calculation estimates provided by Alberta - Pacific, which indicated that approximately one third of mill employees would access the mill from Highway 55 west, were used.

TABLE 1

COMPARISON OF ALTERNATIVES 1, 2 & 3

	1	2	3
Length of main N-S road (km)	22.7	20.8	18.7
Est. Const. Cost to paved RAU-211.8	$10.4 M	$10.7 M	$ 8.9 M
Length of Grassland Connector	6.8	6.8	2.7
Est. Const. Cost to Paved RAU-211.8	$ 3.6 M	$3.6 M	$ 2.1 M
Length of Other Roads required in System	(1) 4.6	N/A	(2) 21.5
Est. Cost	$ 2.8 M		$ 6.9 M
Total length of paved road in system (km)	34.1	27.6	42.9
TOTAL CONSTRUCTION COST	$16.8 m	$14.3 m	$17.9 m
Travel Distances (km)			
Athabasca to Mill	46.7	49.1	47.1
Boyle to Mill	41.3	41.3	41.2
Lac La Biche to Mill	71.0	71.0	71.0
Edmonton to Mill			
via Hwy. 2	192.7	195.1	193.1
via Hwy. 63	191.3	191.3	191.2
Approx. R/W required (acres)	287	293	207
1/4 sections of patented land severance	3	2	2
# of cases of Farmstead Frontage Damage	0	0	4
# of farmsteads adjacent to route	8	2	33
Approx. length in km of route traversing soils with ratings of			
Class 3	14.6	8.5	20.0
Class 4	16.5	13.0	22.9
Organic	3	4.2	
Potential Environmental Impact	Low	Low to Moderate	Low

(1) North-South connection from Highway 63 to Grassland Connector (RAU-211.8 standard)

(2) Amber Valley Road from Jct. Highway 55 to Mill Site required for traffic originating or destined on Highway 55 West (RCU-209 standard).

4. RESOURCE ROAD TO NORTH OF CALLING LAKE

The timber resources to be utilized by Alberta - Pacific are located primarily to the north and northeast of the proposed pulp mill. Because of the size of the mill and the high volume of logs required to maintain the production rate, it is not feasible to restrict woodland operations and haul to the winter months. It is therefore necessary to establish a trunk system of all weather roads to provide access to the woodlands. The proposed resource road to north of Calling Lake would form part of this trunk road system.

The road is to be funded by the government and will be a public road. Unrestricted public access to the road will be maintained year round. The majority of traffic on the road will be mill related with a maximum of approximately 230 loaded logging trucks per day during the winter season. Other mill related traffic associated with woodland operations combined with other industrial traffic and public traffic should result in average winter volumes of approximately 650 vehicles per day.

With the mixture of public traffic and log haul traffic on the resource road the safety of public traffic is a major factor in the roadway layout and design. A high standard roadway with an 11 m surface width is therefore proposed. Because the road is a resource road and has to accommodate high volumes of heavily loaded logging trucks year round, a paved roadway surface would be costly to maintain. A gravelled surface roadway is therefore proposed. It is recognized that a dust abatement program will have to be implemented to ensure safe driving conditions are maintained.

The proposed resource road to north of Calling Lake begins at the main mill access location. It proceeds northerly along the west boundary of the proposed mill site to the road allowance along the

north boundary of Township 68. It then proceeds west to a new crossing of the Athabasca River near the westerly end of the Pine Sands Natural Area. The road then swings generally north to tie into Secondary Highway 813 to the north of Calling Lake. In addition to the Athabasca River crossing a major bridge crossing of the Calling River will be required.

The most critical portion of the proposed resource road route from environmental, engineering, and construction timing viewpoints is the Athabasca River Crossing. Approximately 18 months lead time for the planning and design of the bridge structure is required. Because Alberta - Pacific requires that the bridge be completed no later than November of 1991 to accommodate log haul a decision on the bridge location had to be made early in 1989. Studies to determine the bridge crossing location were therefore initiated in December of 1988 utilizing aerial photography, topographic maps and field reconnaissance.

Recognizing that the Athabasca River crossing had to be located as close as possible to the proposed mill site to accommodate log haul, investigations to identify a bridge crossing location were concentrated in that area. Unfortunately, the reach of the Athabasca River in this general area is characterized by geotechnically unstable valley slopes. If possible at all, the construction of a bridge at most locations within the reach would be costly because of the geotechnical stabilization measures required, and the increased maintenance requirements in the future.

Stabilization measures could also add significantly to the time period for construction. These potential delays in construction could result in the roadway not being available to accommodate log haul during the winter of 1991-92.

When investigating possible river crossing sites the first priority was to establish a location outside of the Pine Sands Natural Area. The river banks were found to be unstable downstream of the natural area and in the area 2 to 3 km upstream of the natural area. Still further upstream the river valley becomes much steeper and does not allow suitable gradients on the approach roads to the bridge to be established without using a longer bridge and very large and costly cuts and fills.

Because of the difficulty in establishing a suitable crossing, several sites within the natural area were investigated. The goal was to establish a crossing which would minimize disruption to the Natural Area. Geotechnical instability was again evident for a large section of the valley within the Natural Area. However a fairly narrow corridor which appeared to be suitable for a river crossing was identified near the upstream end of the Natural Area. The proposed river crossing was established as far upstream as possible within this corridor to minimize the impact on the natural area.

After the proposed crossing site was identified preliminary surveys and geotechnical testing were undertaken to verify the alignment.

A general location of the remainder of the resource road to the north of Calling Lake was projected with the aid of aerial photographs and a helicopter reconnaissance. Preliminary comments received indicate that revisions to this location may be required within township 71 and in the area where the proposed alignment passes adjacent to reforestation plots north of the Calling River. Details of these revisions, and other revisions or mitigative measures which may be required to satisfy environmental or land use concerns, will be identified with Forestry, Lands and Wildlife during the detailed referral of the proposed alignment. No detailed work to refine the proposed bridge crossing of the Calling River has been undertaken to date.

4.1 Environmental and Social Impact

The areas with the most potential for environmental and social impact on the resource road to north of Calling Lake are associated with the Athabasca River crossing and the crossing of the Pine Sands Natural Area. Erosion control measures to minimize the siltation of the river during construction will be undertaken. Construction schedules will be reviewed by the Fish and Wildlife Division of Alberta Forestry, Lands and Wildlife to ensure that construction activity within the channel during critical spawning periods is avoided.

Although it was not possible to avoid the Pine Sands Natural Area, the impact is minimized because the proposed roadway is located as far to the west as possible. A passage will be provided under the end of the bridge to accommodate wildlife movements as well as such activities as hiking, trail riding, and snowmobiling. A separate environmental study of the impact of the roadway on the biophysical resources of the natural area will also be undertaken. Access to the natural area will be provided from the resource road using existing access roads to the area.

Environmental impacts due to the construction of the remainder of the road to north of Calling Lake (including the Calling River crossing) will be identified during the referral process. Mitigative measures required to minimize those impacts will be developed in conjunction with the referral agencies.

5. RESOURCE ROAD TO HIGHWAY 63

To access timber resources to the north of the mill and east of the Athabasca River, a resource road connecting the proposed mill site to Highway 63 is required. Like the resource road to north of Calling Lake, this road would be funded by the government and would be designated as a public road to ensure unrestricted public access.

It is anticipated that the majority of the traffic on this route will be woodlands related. The route will be utilized by approximately 175 loaded log and chip trucks per day during the winter period. Other traffic on the route will include vehicles accessing the company's woodlands operations and employees destined for the mill from Wandering River and the area north of Plamondon. It is anticipated that average winter traffic volumes on this route will be in the range of 400 to 500 vehicles per day.

Concerns for the safety of public traffic mixed with large logging trucks require that this resource road be designed to a high standard. It is therefore proposed that an 11 m gravelled surface roadway with good geometric standards be constructed.

The proposed resource road connection to Highway 63 begins at the northwest corner of the proposed mill block. It passes easterly along the north boundary of the site. It then swings south immediately east of the mill site and joins the blind line one mile south of the boundary between Townships 68 and 69. The proposed route then follows this blind line east to the point of intersection with Highway 63. A major bridge crossing of Pine Creek will be required.

The alignment was projected with the aid of topographic maps, aerial photography and a helicopter reconnaissance of the area. The projection attempts to avoid agriculturally developed lands to the south and wet areas containing muskeg to the north. It was also projected to connect with Highway 63 south of the La Biche River to avoid a costly stream crossing.

Detailed work to refine the proposed alignment has not yet been undertaken. Revisions to the alignment to satisfy environmental or social concerns which arise during the referral process may be required.

5.1 Environmental and Social Impact

Environmental impacts of this route include the crossing of Pine Creek and the negative implications of roadway development on wildlife in the area. Alberta Transportation and Utilities will work with referral agencies to develop and implement mitigative measures to minimize the negative impacts of roadway construction.

Social impacts will relate to the construction of a roadway where none now exists. It is anticipated that dust control measures will have to be taken to ensure the operational safety of the route and to counteract the adverse impact of dust on building sites and pasture lands. Access requirements will be identified and reviewed with the County of Athabasca and affected land owners during the study process.

6. PUBLIC PARTICIPATION

Alberta Transportation and Utilities were assigned responsibility for determining the location of the public access road system required for development of the mill. The department adopted the position that the local authorities and the public had to be fully involved and informed during this process. Various alternatives were therefore reviewed and discussed with the local authorities and interested residents in the surrounding areas to obtain input and feedback relative to the roadway system. Following is a brief summary of several meetings which have taken place.

January 9, 1989 - Meeting with the Town of Athabasca to discuss alternatives for access to the mill. Representatives from the town expressed preference for as direct a route from the town to the mill as possible. The Amber Valley alternatives along with an east west connection to Highway 63 at the Grassland Corner appeared to be satisfactory to them. They also raised the question of a bypass route from Highway 2 to Highway 55 at Athabasca so that trucks would not have to pass through downtown. No concerns regarding resource road alignments were expressed.

January 9, 1989 - Meeting with County of Athabasca to discuss access road alternatives. There was a general feeling that Alternative 1 along with the Connector to Highway 63 at the Grassland corner and a connector south to Highway 63 on the Spruce Valley Road would be acceptable. Some concern regarding the east-west resource road to Highway 63 was expressed. Concern centered on disruption to residents and agricultural operations.

January 9, 1989 - *Meeting with Casey Bizon, a spokesperson for the Pine Sands Natural Area Society. Mr. Bizon indicated the alignment through the Pine Sands Area was acceptable (to him).*

January 12, 1989 - *Meeting at Athabasca with Leo Piquette, former M.L.A. and representatives from the Town of Lac La Biche, Villages of Grassland, Boyle and I.D. No. 8.*

Serious reservations about Alternative 1 (Amber Valley route) expressed because they felt it gave preferential treatment to the Town of Athabasca. Preference expressed for Alternative 3, the Spruce Valley route. No concerns raised regarding resource road alignments.

January 23, 1989 - *Meeting with County of Athabasca. Information regarding the departments road plans for the area was discussed. No specific comments regarding alternatives expressed by the County. Meeting largely dealt with other road matters.*

January 23, 1989 - *An open house was held at the Grassland Community centre. Approximately 125 people from Boyle, Lac La Biche, Grassland, Athabasca and the surrounding rural areas attended. Various opinions expressed but in general terms it appears the Alternative 1, Amber Valley route, would not be acceptable to the*

majority of those attending. The Alternative 2, 1/4 line route might be acceptable and the people from the Lac La Biche , Boyle and Spruce Valley areas favor Alternative 3, Spruce Valley route.

Some concern regarding resource road alignments expressed. One resident concerned about treed area which provides shelter to cattle on his property near Highway 63. Representative of Forestry Lands and Wildlife in Lac La Biche expressed concern about 2 sections of alignment on the Calling Lake road and made suggestions regarding revisions.

January 31, 1989 - A public meeting was held at the Prosvita Hall with 70 to 100 people in attendance. The most vocal support favored Alternative 3, the Spruce Valley Road. Some support was also expressed for both Alternative 1, the Amber Valley route and Alternative 2, the quarter line route. Concerns were expressed regarding environmental impact, particularly on muskeg areas and on the disruption to local residents.

Concerns regarding impact of road on Natural Area were expressed. Concerns related to physical disturbance to the area and increased public access to the area. Suggested that discussions be held with Poacher's Landing Recreation Club. Several subsequent discussions between the District Transportation Engineer and interested individuals were held.

February 7, 1989 - *A meeting was held in the office of the Deputy Minister of Alberta Transportation and Utilities with approximately 20 people attending. Representatives from the Boyle, Lac La Biche, Grassland and the Spruce Valley area, as well as Leo Piquette, the former M.L.A. were present.*

In general terms the group was opposed to any route that would appear to give preferential treatment to Athabasca. Many of those present preferred Alternative 3, the Spruce Valley route.

No concerns related to resource road alignments were expressed.

In addition to the formal meetings listed above communication through discussion or correspondence has taken place with numerous individuals expressing support for specific alternatives or requiring clarification on various aspects of the road network.

7. REFERRAL PROCESS

Alberta Transportation and Utilities utilizes a formalized referral procedure to provide a framework to address the concerns of other government departments and agencies and the local authorities, during the planning, design and construction of primary highways. The overall objective of this procedure is to ensure that highway projects are planned and built in a manner that is satisfactory to the many authorities that have responsibility for the varying aspects of the social and natural environment in a particular area.

Alberta Transportation and Utilities has had a referral system with Alberta Forestry, Lands and Wildlife, and Alberta Recreation and Parks since 1969. Upon ratification of the Land Conservation and Reclamation Act in 1973, the referral system was expanded to include Alberta Environment. The referral system has since been expanded to include local authorities, Alberta Culture, Alberta Municipal Affairs, and the Regional Planning Commissions.

The location study referral system was originally developed for primary highway projects. It has since been expanded and now applies to all roadway projects under the direction of Alberta Transportation and Utilities or where assistance in the planning of projects has been requested by the local authorities. In the case of Secondary Highways and local roads, the local authority has jurisdiction and exercises management control over the roads. Alberta Transportation and Utilities undertakes work to provide assistance to the local authorities when requested or when directed by the government.

The referral system involves the input of each of the referral agencies and the co-operation of Alberta Transportation and Utilities in addressing the concerns of each. It is the responsibility of each referral agency to ensure that projects are properly assessed. Through this process, potentially significant impacts of roadway projects can be identified at an early stage. Alternative alignment locations which avoid the impact can then be considered. If the impact cannot be avoided, mitigative measures which will minimize the social or environmental impact of the project are developed in conjunction with the referral agency.

The referral system is set up with one central co-ordinator for each department. It is his job to obtain comments from the applicable divisions within that department and combine those comments into an overall departmental response.

Roadway projects are referred at various stages of development. The first referral is usually carried out at the time of project initiation and defines a general corridor of interest. Subsequent referral stages contain progressively more detail and cover individual alignment alternatives considered, recommended alternatives and ultimately such design details as borrow pit locations and screening, the type of fencing to be used on the right-of-way and access locations.

Following is a brief summary of steps taken to date under the referral process for the roadway infrastructure component of the Alberta - Pacific Pulp Mill project.

December 21, 1988 - *Meeting between Alberta Transportation and Utilities, Alberta Forest Service and Fish and Wildlife to exchange background information regarding the road and rail infrastructure required for the pulp mill project.*

January 9, 1989 - *Meeting with County of Athabasca.*

January 17, 1989 - *Meeting with Linear Development Co-ordinator from Alberta Forest Service and Manager, Natural Areas Program from Forestry, Lands and Wildlife held to discuss the Pine Sands Natural Area.*

February 13, 1989 - *Formal written referral of alternative routes for access road, Athabasca River Bridge and resource road corridors sent to:*

- *Alberta Forestry, Lands and Wildlife*
- *Alberta Environment*
- *Alberta Recreation and Parks*
- *Alberta Culture*

Contact with individual landowners from whom right-of-way is required for road construction will be made as soon as possible after a decision to proceed with the project is made. Negotiations relative to the property acquisition will then proceed between Alberta Transportation and Utilities property agents and the individual landowners. In areas where flexibility permits, minor revision to the proposed alignment can still be made at this stage to minimize the impact of the alignment on the remaining property. Should negotiations with landowners break down or reach an impasse, Alberta Transportation and Utilities would, as a last resort, initiate expropriation proceedings to acquire the necessary right-of-way.

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